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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,766	06/24/2005	Andrew Clark	N335.312-0001	7141
164 7590 10/30/2008 KINNEY & LANGE, P.A. THE KINNEY & LANGE BUILDING 312 SOUTH THIRD STREET MINNEAPOLIS, MN 55415-1002				
EXAMINER THOMAS, BRANDIN				
ART UNIT 2873		PAPER NUMBER		
MAIL DATE 10/30/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/540,766

**Applicant(s)**

CLARK ET AL.

**Examiner**

BRANDI N. THOMAS

**Art Unit**

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33, 35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) 20-33 and 35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

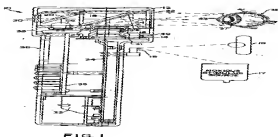
A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-19 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Stark et al. (2006/0181678 A1).

Regarding claims 1 and 36, Stark et al. discloses, in figure 1, a pupilometer (10) comprising image capturing means (14, 16, and other related image processing electronics) (section 0046), illumination means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) (section 0063) comprising two spaced apart light sources (24) (section 0046), stimulation means (two yellow light LEDs, 26 and second beam splitter, 20) (section 0070), and image processing software (microprocessor, not shown) (sections 0074 and 0075), wherein said illumination means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) generates and emits light of a first wave-length wavelength (section 0063), and said stimulation means (two yellow light LEDs, 26 and second beam splitter, 20) generates and emits light of a second wavelength (section 0070), and wherein said illumination means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) is arranged to one or both sides of said image capturing means (14, 16, and other related image processing electronics) (figure 1 and sections 0046 and 0063)and, in use, shines light towards the an eyeball (38) (sections 0063 and 0064),

wherein the said image processing software (microprocessor, not shown) receives data from the image capturing means (14, 16, and other related image processing electronics) (section 0074), and by processing said data according to an algorithm establishes the distance between the surface of the eyeball (38) and the camera image capturing means (14, 16, and other related image processing electronics) (sections 0199-0122).



Regarding claim 2, Stark et al. discloses, in figure 1, a pupilometer (10), wherein establishing the distance between the surface of the eyeball (38) and the image capturing means (14, 16, and other related image processing electronics) includes finding highlights on the surface of the eyeball (38) generated by the said illumination means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) and calculating the distance between said highlights (sections 0079 and 0080).

Regarding claim 3, Stark et al. discloses, in figure 1, a pupilometer (10), wherein the wavelength of the light generated by said illumination means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) is in the infra-red spectrum (section 0063).

Regarding claim 4, Stark et al. discloses, in figure 1, a pupilometer (10), wherein each light source (24) is an infra-red light emitting diode (sections 0046 and 0063).

Regarding claim 5, Stark et al. discloses, in figure 1, a pupilometer (10), wherein the image capturing means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) has

an optical axis (straight line going through pupilometer), and wherein the said two spaced apart light sources (24) shine light in a direction substantially parallel to the optical axis of the said image capturing means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) (figure 1).

Regarding claim 6, Stark et al. discloses, in figure 1, a pupilometer (10), wherein said stimulation means (two yellow light LEDs, 26 and second beam splitter, 20) comprises a light emitting diode generating and emitting light in the visible spectrum (section 0070).

Regarding claim 7, Stark et al. discloses, in figure 1, a pupilometer (10), wherein said image capturing means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) comprises a camera (CMOS) (section 0055).

Regarding claim 8, Stark et al. discloses, in figure 1, a pupilometer (10), further comprising an optical filter (18) mounted on the image capturing means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) (section 0055).

Regarding claim 9, Stark et al. discloses, in figure 1, a pupilometer (10), wherein the optical filter (18) passes only light of the said first wavelength (section 0056).

Regarding claim 10, Stark et al. discloses, in figure 1, a pupilometer (10), wherein said camera (CMOS) generates a video signal (section 0055).

Regarding claim 11, Stark et al. discloses, in figure 1, a pupilometer (10), wherein said camera (CMOS) is a complementary metal oxide semiconductor device (section 0055).

Regarding claim 12, Stark et al. discloses, in figure 1, a pupilometer (10), wherein said image detection means further includes a micro-controller including a micro-processor (not shown) (section 0055).

Regarding claim 13, Stark et al. discloses, in figure 1, a pupilometer (10), further comprising an analogue to digital converter (34, motherboard) arranged between said camera image capturing means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) and said micro- controller (not shown, microprocessor) (section 0055).

Regarding claim 14, Stark et al. discloses, in figure 1, a pupilometer (10), further comprising memory means (system memory) (section 0055).

Regarding claim 15, Stark et al. discloses, in figure 1, a pupilometer (10), further comprising data input means and display means (36) (section 0055).

Regarding claim 16, Stark et al. discloses, in figure 1, a pupilometer (10), further comprising an interface (GUI) for linking said pupilometer to an external computer (section 0077).

Regarding claim 17, Stark et al. discloses, in figure 1, a pupilometer (10), wherein said pupilometer (10) is a hand-held device (section 0045), wherein said hand-held device (10) mounts said image capturing means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) (section 0046), illumination means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) (section 0046), stimulation means (two yellow light LEDs, 26 and second beam splitter, 20) (section 0046), image processing software (microprocessor, not shown) (section 0046), data input means, display means (36) (section 0046), and a computer interface GUI (section 0046) but does not specifically disclose wherein said hand-held device including a hand grip. It is inherent that a hand-held device would include a hand grip, this being reasonably based upon the hand-held device would include a grip to ensure a grasping mechanism for use.

Regarding claim 18, Stark et al. discloses, in figure 1, a pupilometer (10), wherein, in use, the user views the image of the eye (38) displayed on the display means (36) (sections 0055 and 0056), the said image having been captured by said image capturing means (two blue light LEDs, 28 and 328 and four IR LEDs, 24,324, and 424) and processed by said image processing software (not shown, microprocessor) (sections 0077, 0079, and 0080).

Regarding claim 19, Stark et al. discloses, in figure 1, a pupilometer (10), further comprising a power supply consisting of a battery (32) (section 0046).

### ***Response to Arguments***

3. Applicant's arguments filed 8/20/08 have been fully considered but they are not persuasive. Applicant argues that Stark does not disclose any processing software that receives data from the image capturing means, and by processing said data according to an algorithm establishes the distance between the surface of the eyeball and the image capturing means. However, Stark discloses the use of horizontal and vertical measurements. Particularly, in paragraph 0122, Stark discloses by evaluating the shape of the iris border of the eye, it is possible to estimate the angular orientation of the eye with respect to the pupilometer. Stark also discloses, in paragraphs 0120 and 0121, that the use of an algorithm to evaluate an orientation of an eye in relation to the pupilometer. The applicant argues that Stark relies on assumed sizes and cannot provide the accuracy and therefore reliability of result when compared with the pupilometer of the present invention. However, the claim limitation of the present invention does not limit the use of actual tested determined sized and therefore does not exclude using assumed sizes. Therefore the claimed limitations have been met.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDI N. THOMAS whose telephone number is (571)272-2341. The examiner can normally be reached on Monday - Thursday from 6-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott J. Sugarman/  
Primary Examiner, Art Unit 2873

/Brandi N Thomas/  
Examiner Art Unit 2873

BNT  
October 21, 2008